FEDERAL WILDLIFE CLOSURE REVIEW
WCR06-10

Closure Location: Unit 22B. Federal public lands are closed to the taking of muskox except by Federally qualified subsistence users.

Closure Dates: Aug. 1–Mar. 15

Current State regulations:

Species and Bag limits - Muskox	Permit/Ticket Required	Open Season
Unit 22B, within the Fox River drainage upstream of the Fox River bridge, and within one mile of the Fox River bridge, and within one mile of the Council Road east of the Fox River bridge: **Residents:** One bull by permit	TX105	Nov 1-Mar 15
Remainder of Unit 22B: **Residents:** One bull by permit	TX105	Aug 1-Mar 15

Regulatory year initiated: 2001/02

Proposal number of initial closure and any subsequent proposals: Proposal 88 (1998) — first attempt but rejected by the Federal Subsistence Board (Board).

WP01-35 — Board established first hunt with closure for the 2001/02 regulatory year.

Justification for original closure (Section 815(3) criteria): Proposal WP01-35 was the result of a multi-year, cooperative effort to establish a muskox harvest system that would be biologically sound in its management and meet the needs of the local subsistence users. In order to meet these criteria, the Board closed Federal public lands in Unit 22B to non-Federally qualified hunters during the Aug. 1–Mar. 15 season. This has been a very successful cooperative effort. Muskox management on the Seward Peninsula is guided by recommendations from the Seward Peninsula Muskox Cooperators Group (Cooperators Group). The Cooperators Group is composed of staff from the ADF&G, NPS, BLM, FWS, Bering Straits Native Corporation, Kawaerak Inc., the Reindeer Herders Association, and the Northwest Alaska Native Association, residents of Seward Peninsula communities, and representatives from other interested groups or organizations. The Cooperators Group has been involved with muskox management since the 1990s and as the muskox population on the Peninsula has grown, it has provided guidance for liberalizing harvest regulations under both Federal and State jurisdictions. The Cooperators Group also was responsible for developing the Seward Peninsula Cooperative Muskox Management Plan (Management Plan). The harvest rates, division and distribution of the permits, seasons, and harvest limits have all been developed cooperatively.

Council recommendation for original closure:

Proposal 88 (1998) — Oppose the proposal

WP01-35 — Seward Peninsula Regional Council — Support

WP01-35 — Northwest Arctic Regional Council — Support

State recommendation for original closure:

Proposal 88 (1998) — Defer

WP01-35 —Support

Other significant comments presented when the Board adopted the original closure: None

Current resource abundance related to management objective: The current size and continued growth of the Unit 22B muskox population is meeting the State's management goals.

The following management goals form the basis of the cooperative interagency management plan for Seward Peninsula muskoxen developed from 1992 through 1994 and follow the guidelines of the ADF&G Muskox Management Policies.

- Allow for continued growth and range expansion of the Seward Peninsula Muskox Population.
- Provide for a limited harvest in a manner consistent with the existing State and Federal laws by following the goals/objectives endorsed by the Seward Peninsula Muskox Cooperators Group and the Seward Peninsula Cooperative Muskox Management Plan.
- Protect and maintain the habitats and other components of the ecosystem upon which muskoxen depend.
- Encourage cooperation and sharing of information among agencies and users of the resource in developing and executing management and research programs.

Resource population trend: Federal lands comprise only about 11% of Unit 22B and are located in the more remote portions of the unit. Analysis of results from surveys conducted in Unit 22B revealed that the muskox population has shown steady growth during the seven survey years that occurred during 1992 to 2005 (Table 1). Further analysis of survey results reveals that the current population can support a limited harvest of muskox on these limited Federal lands in Unit 22B.

Table 1. Unit 22B Muskox population trend.

Year	1992	1994	1996	1998	2000	2002	2005
Total Muskox	3	11	51	27	159	189	326

Harvest trend and/or hunter effort: Analysis of results from 2005-06 harvest data revealed that a total of 28 permits (21 State Tier II and 7 Federal permits) were allocated for Unit 22B with a total harvest allocation of 16 bull muskox. Total harvest for the 2005-06 Federal and State seasons was 12 bull muskox (10 muskox taken under State Tier II permits and 2 taken under Federal permit) (Table 2). The allocation of seven Federal permits was recommended by the Cooperators Group, to provide opportunity for qualified rural residents, should they fail to receive State Tier II permits. Because of the long distances from the local communities to Federal public lands, relative to the close proximity of State lands, the total Federal allocation is rarely met.

Table 2. Unit 22B Federal and State permits issued and total muskox harvested during 2001–2005.

Year	2001/02	2002/03	2003/04	2004/05	2005/06
Federal Permits Issued	3	4	4	3	3
State Permits Issued	4	5	1	5	10
Total Permits Issued	7	9	5	8	13
Federal Harvest	2	0	0	2	2
State Harvest	4	5	1	5	10
Total Harvest	6	5	1	7	12

Preliminary OSM recommendation:

___ maintain closure

___ initiate proposal to modify or eliminate the closure

_X_ other recommendation

Justification for the OSM recommendation: The Federal and State permit allocations are consistent with sound management principles and the Management Plan, while providing a preference for subsistence uses over other consumptive uses of this limited resource in Unit 22B. The current size and growth trend of the Unit 22B muskox population can support a limited harvest on Federal public lands. Federal and State harvest allocations and population management are guided by recommendations from the Cooperators Group. Eliminating the closure would not create conservation concerns, since a harvest quota exists for this hunt and would still be in place if the closure was lifted. However, as muskox move on and off Federal jurisdictions in Unit 22B, removal of the closure could jeopardize the Federal harvest allocation for Federally qualified users holding a Federal permit. Because the closure and the Federal permit allocation are tied to larger social issues, it is important that recommendations to remove the closure be made through the Cooperators Group. At this time there have been no recommendations made by the Cooperators Group to eliminate the closure in Unit 22B. Conservation concerns are addressed by adjusting the harvest quota.

The Cooperators Group is scheduled to meet in November 2006 when it could consider this review and would have the opportunity to make recommendations to the Federal and State Boards. At the November meeting, the Cooperators Group will also define Amounts Necessary for Subsistence and will make respective recommendations to the Alaska Board of Game should it deem necessary. Given its success in recommending ways to have both State and Federal muskox hunts in Unit 22, and its resulting support of regulations implemented by the Federal and State Boards, it is very important to involve the Cooperators Group in any discussions involving changes to the existing Federal closures for this hunt.

A muskox population survey is scheduled for spring 2007. Based on an analysis of 2007 survey results, a follow up review of the population and the closure should be conducted to determine if the Federal closure is necessary for conservation or to provide for continued subsistence use by rural residents

on Federal public lands. Should the analysis of the new information reveal that the Federal closure is no longer necessary for conservation of the herd or to provide for opportunity on Federal lands, any recommendations to the Board concerning regulatory changes should be channel through the Cooperators Group.

Literature

ADF&G. 2006. Harvest database. Division of Wildlife Conservation, Alaska Department of Fish and Game. Anchorage, Alaska. Website, http://www.wildlife.alaska.gov/index.cfm?fuseaction=harvest.lookup.

ADF&G. 1980. Muskox management policies. Pages X-1-X-4 in Alaska wildlife management plans: species management policies. Alaska Department of Fish and Game. Federal aid in wildlife restoration miscellaneous report. Project W-20-2. Juneau, AK.

Adkisson, K. 2006. Cultural anthropologist. Personal communication. NPS. Nome, AK.

Denton, J. 2006. Wildlife biologist. Personal communication. BLM. Anchorage, AK.

Nelson, R. 1994. Seward Peninsula Cooperative Muskox Management Plan. Unpublished Document. Alaska Department of Fish and Game. Nome, AK.

Persons, K. 2005. Unit 22 Muskox Management Report. Pages 12-37 *in* C. Brown, editor. Muskox Management Report of Survey and Inventory Activities. 1 July 2002–30 June 2004. Alaska Department of Fish and Game, Juneau, Alaska.

FEDERAL WILDLIFE CLOSURE REVIEW
WCR06-11

Closure location: Unit 22B — West of the Darby Mountains fall season. Federal public lands are closed to the taking of moose except by Federally qualified subsistence users.

Closure dates: Aug. 10–Sept. 23

Current State regulations:

Species and Bag limits — Moose	**Permit/Ticket Required**	**Open Season**
Remainder of Unit 22B: Residents: One bull *by permit available online at hunt.alaska.gov or in person in Nome or at license vendors in Teller, White Mountain, and Golovin beginning Aug 1. Season will be closed by emergency order when 23 bulls are taken.*	RM840	Sept 1–Sept14
Nonresidents:		no open season

Regulatory year initiated: 2003/04

Proposal number of initial closure and any subsequent proposals: WP02-34, WSA04-01, WSA04-02, WP05-14a, WP06-40

In 2004, two special actions, WSA04-01 and WSA04-02, were submitted to make adjustments to the moose harvest quotas in Unit 22B — west of the Darby Mountains for both the fall and winter seasons. WSA04-01 was adopted by the Federal Subsistence Board to reduce the combined fall Federal/State harvest quota to 23 moose. WSA04-02 also was adopted by the Board to reduce the total Federal/State harvest for both the August/September and January seasons to 30 moose. WP05-14a placed the changes made by WSA04-01 and WSA04-02 into permanent regulation. WP06-40 removed the quota numbers from the regulations and delegated authority to the Anchorage BLM Field Office Manger, in consultation with NPS, and the ADF&G to announce any needed closures and quotas. For 2006, the ADF&G further reduced the combined fall/winter harvest quota to 23 moose.

Justification for original closure (Section 815(3) criteria): Conservation of a declining moose population and to provide Federally qualified subsistence users with an opportunity to harvest moose on Federal public lands in Unit 22B.

Council recommendation for original closure:

WP02-34 — Supported with modification. The Council felt that this proposal, with the staff recommended modification, would provide sufficient opportunity for subsistence users while taking the most conservative approach to managing the moose population.

WP05-14a — Supported with modification to delegated authority to the area Field Office Manager of the BLM, in consultation with NPS and ADF&G.

WP06-40 — Supported the proposal with modification as recommended by the Seward Peninsula Regional Council, to: 1) change the Federal registration permit requirement to State registration permits; 2) change the regulatory language from "season changes" to "closures"; and 3) change the Unit 22D, that portion west of the Tisuk River drainage and Canyon Creek, winter (Dec. 1–31) season language, to remove the quota and reflect the changes made in the other Units.

State recommendation for original closure:

Support with modification.

Other significant comments presented when the Board adopted the original closure: None

Current resource abundance related to management objective: Because of high predation rates, low calf survival, low recruitment, and low numbers, Unit 22B moose have become an aging and declining population. As the management objectives for Unit 22B moose cannot be met because of the ongoing adverse impacts from predation, the need to maintain the rural preference through the Federal closure is warranted.

The ADF&G's management objective for moose in Unit 22B is to stabilize the population at 1,500–2,500. Based on an aerial survey conducted by ADF&G in 2004 west of the Darby Mountains, it appears that the estimated 586 moose was a 64% decline in that population since 1987. Habitat does not appear to be a limiting factor for the moose population in the Unit 22. The ADF&G also has been following some area moose with radio-telemetry and that study has shown a large percentage of the moose collared were very old, likely due to low recruitment in the past 10 years.

Resource population trend: There has been a 64% decline in Unit 22B moose population since the 1987 census and a 27% decline since 1999. The calf:adult moose ratio was 10 calves:100 adults and the recruitment rate was 9 %. This low number of calves is consistent with the calf:adult moose ratio of 10% found in fall composition and spring recruitment surveys in the last decade. The continued decline in Unit 22B is a serious concern and steps to further protect this population need to be considered.

It appears that few moose calves are surviving to reproduce. Thus, the population is aging and as these older animals die off, there will likely be a further population decline. Analysis of results from ADF&G studies of calf survival showed that 71% of the calves located right after birth died within a month and up to 75% had died by three months. This probably points to high calf predation by bears and wolves. Results from analysis of yearling surveys have remained at 6–9% yearlings since 1992, with 16–20% usually needed for a healthy population. In addition, analysis of results from a composition count conducted by the ADF&G for the fall of 2000, revealed only 6% calves; based on this count, the actual recruitment for 2000 was likely even lower.

Harvest trend and/or hunter effort: Harvest reporting for moose in Unit 22B dates back to 1983. Since that time, 65% of the reported moose harvest was by Unit 22 residents. Moose harvest in Unit 22B has declined from a range of 116 to 155 taken in the mid-1980s to a range of 49 to 56 taken in 2002 and 2003. Harvest data are most likely below actual harvests, but the numbers give a relative idea of which communities are harvesting moose in Unit 22B west of the Darby Mountains. No other residents from Unit 22 have recorded harvests in Unit 22B west of the Darby Mountains. When the harvest data were examined after dividing out the region west of the Darby Mountains for the years 1997–2001, 74% of the

moose harvested were taken by Unit 22 residents. This higher percentage took into account unreported harvest data gathered through village surveys.

Management actions that decreased the number of moose that may be harvested from 42 to 18 in the fall, should aid in the recovery of the moose population. The decrease in allowable harvest will hopefully help the population to recover more quickly, ultimately conserving the resource for future harvest opportunities.

Although moose have been present in Unit 22 for a relatively short time, they rapidly became an extremely important food source for many Seward Peninsula residents. Gravel roads and navigable rivers provide relatively easy access to suitable moose habitat. The annual reported harvest in Unit 22 overall has ranged from a low of 44 moose taken in 1972 to a high of 408 taken in 1986, and back down to <200 taken in the late 1990s. Most hunter effort over the years has occurred during August, September, and October when access by road and river is more favorable; however, the use of ATVs and other off-road vehicles is becoming more popular.

In Unit 22B West, seasons and harvest limits have been reduced for both the Federal and State hunts:

- In 2000, the State had a six-month season (Aug. 1–Jan. 31) for bull moose and a two-month season (Dec. 1–Jan. 31) for antlerless moose.
- In 2000, the State season was split into a two-month fall season (Aug. 1–Sept. 30) and a one-month winter season (Jan. 1–31), with a bulls-only harvest limit for both seasons.
- In 2002, the fall season was shortened to Aug. 10–Sept. 23 and a harvest quota of 48 bull moose was established for the fall and winter seasons combined.
- In 2004, the quota was reduced to 30 bulls (23 for the fall season and 7 for the winter season).
- In 2005, the fall season was shortened to Sept. 1–14.
- In 2006, the quota was reduced to 23 bulls (18 for the fall season and 5 for the winter season).

During this period of decline, the Seward Peninsula Regional Council and the Federal Board have worked cooperatively with the State to make the current Federal seasons and harvest limits parallel to the State regulations for 22B West. Parallel seasons reduce confusion for the public and assist Federal and State managers in meeting their management goals. To the extent that the Federal closure to non-Federally qualified users reduces harvests in 22B West, the Federal closure may help to hasten recovery of this depressed moose population.

Preliminary OSM recommendation:

_X_ maintain the closure

__ initiate proposal to modify or eliminate the closure

__ other recommendation

Justification for the OSM recommendation: The Unit 22B moose population, west of the Darby Mountains, continues to exist in low numbers and at a low density and there are no indications that there have been any increases in the moose population to justify additional non-subsistence harvest. Therefore the Federal closure should be maintained.

Literature

ADF&G. 2001. Community Profile Database. Harvest records for Unit 22 communities. Microcomputer database updated 2001.

ADF&G. 2003. Harvest ticket database. Microcomputer database, updated November 2003.

Adkisson, K. 2006. Cultural anthropologist. Personal communication. NPS. Nome, AK.

Denton, J. 2006. Wildlife biologist. Personal communication. BLM. Anchorage, AK.

FSB. 2000. Transcripts of the Federal Subsistence Board proceedings, May 6, 2000. Anchorage, AK.

Nelson, R., K. 1995. Unit 22 moose survey-inventory progress report. Pages 405–419 in M.V. Hicks, ed. Management report of survey-inventory activities, 1 July 1993-30 June 1995. ADF&G Fed. Aid in Wildl. Rest. Prog. Rep. Proj. W-24-2, W-24-3, Study 1.0, Juneau, AK. 488 pages.

Persons, K. 2000. Unit 22 moose survey-inventory progress report. Pages 436–453 in M.V. Hicks, ed. Management report of survey-inventory activities, 1 July 1997–30 June 1999. ADF&G Fed. Aid in Wildl. Rest. Prog. Rep. Proj. W-27-1, Study 1.0, Juneau, AK. 587 pages.

Persons, K. 2001. Area Game Biologist. Alaska Department of Fish and Game, Nome, AK. Personal Communication.

Persons, K. 2004. Area Game Biologist. Alaska Department of Fish and Game, Nome, AK. Personal Communication.

FEDERAL WILDLIFE CLOSURE REVIEW
WCR05-12

Closure location: Unit 22B — West of the Darby Mountains winter season. Federal public lands are closed to the taking of moose except by residents of White Mountain and Golovin.

Closure dates: Jan. 1–Jan. 31

Current State regulations:

Species and Bag limits — Moose	**Permit/Ticket Required**	**Open Season**
Remainder of Unit 22B: Residents ONLY: **OR One antlered bull** *by permit available in person at ADF&G in Nome or at license vendors in Teller, White Mountain, and Golovin beginning Dec 1……..*	RM849	Jan 1–Jan 31
Nonresidents:		no open season

Regulatory year initiated: 2002/03

Proposal number of initial closure and any subsequent proposals: WP02-34, WP02-35, WSA04-01, WSA04-02, WP05-15

In 2004, two special actions, WSA04-01 and WSA04-02, were submitted to adjust the moose harvest quotas for both the fall and winter seasons in Unit 22B — west of the Darby Mountains. WSA04-01 was adopted by the Federal Subsistence Board (Board) to reduce the combined fall Federal/State harvest quota to 23 moose. WSA04-02 also was adopted by the Board to reduce the total Federal/State harvest for both the August/September and January seasons to 30 moose.

Note: WP05-14a placed the changes made by WSA04-01 and WSA04-02 into permanent regulation. WP06-40 removed the quota numbers from the regulations and delegated authority to the Anchorage BLM Field Office Manger, in consultation with NPS and the ADF&G, to announce any closures and harvest quotas. In 2006 the ADF&G further reduced the combined fall/winter harvest quota to 23 moose.

Justification for original closure (Section 815(3) criteria): Conservation of a declining moose population and to provide Federally qualified subsistence users an opportunity to harvest the limited number of moose on Federal public lands in the affected area of Unit 22B.

Council recommendation for original closure:

WP02-34 — Support with modification. The Council felt that this proposal, with the staff recommended modification, would provide sufficient opportunity for subsistence users while taking the most conservative approach to preserving the moose population.

WP02-35 — Support with modification. The Seward Peninsula Regional Council supported the proposal with the modification to specify rural residents of Unit 22B, West of Darby Mountains — White Mountain and Golovin. The Seward Peninsula Regional Council stated that restricting the harvest to local residents for areas where local moose populations are severely reduced is a conservation measure that would provide a subsistence priority.

WP05-15 — Support with modification to add clarification of the intent of the proponent to include in regulation the combined Federal/State harvest for both the August/September and January seasons.

State recommendation for original closure:

WP02-34 — Support with modification.

WP02-35 — Support with modification.

Other significant comments presented when the Board adopted the original closure: None

Current resource abundance related to management objective: Because of high predation rates, low calf survival, and low recruitment, Unit 22B moose have become an aging and declining population. As the management objectives for Unit 22B moose cannot be met because of the ongoing adverse impacts from predation, the need to maintain the rural preference through the Federal closure is warranted.

The ADF&G's management objective for Unit 22B moose is to stabilize the population at 1,500–2,500. Based an analysis of results from a 2004 aerial survey conducted by the ADF&G west of the Darby Mountains, it appears that the estimated 586 moose was a 64% decline in that population since 1987 and a 27% decline since 1999. Habitat does not appear to be a limiting factor for the moose population in the Unit 22. The ADF&G also has been following some area moose with radio-telemetry and that study has shown a large percentage of the moose collared were very old, likely due to low recruitment in the past 10 years.

Resource population trend: There has been a 64% decline in the Unit 22B moose population since the 1987 census and a 27% decline since 1999. The calf:adult moose ratio was 10 calves:100 adults and the recruitment rate was 9 %. This low number of calves is consistent with the calf:adult moose ratio of 10% found in fall composition and spring recruitment surveys in the last decade. The continued decline in Unit 22B is a serious concern and steps to further protect this population need to be considered.

It appears that few moose calves are surviving to reproduce. Thus, the population is aging and as these older animals die off, there will likely be a further population decline. Analysis of results from ADF&G studies of calf survival showed that 71% of the calves located right after birth died within a month and up to 75% had died by three months. This probably points to high calf predation by bears and wolves. Results from analysis of yearling surveys have remained at 6–9% yearlings since 1992, with 16–20% usually needed for a stable population. In addition, a composition count conducted by the ADF&G for the fall of 2000 found only 6% calves; based on this count the actual recruitment for 2000 was likely even lower.

Harvest trend and/or hunter effort: Although moose harvests in Unit 22B are known to be under-reported, the ADF&G harvest database gives a relative idea of the importance of moose taken in Unit 22B by Unit 22 communities. Of the total of 1,089 moose harvests recorded by Unit 22 residents in Unit 22B from 1983 to 2003, 1,045 were taken west of the Darby Mountains. Of these, 95 were taken by Golovin, 128 by White Mountain, 4 by Elim, 807 by Nome, 8 by Savoonga, and 3 by Gambell. As an example of the disparity between reported and nonreported harvests, in 1999, a community household subsistence harvest survey was conducted in Elim. Based on an analysis of result from this survey, the reported moose harvest varies significantly from the unreported moose harvest. Elim did not report taking any moose in 1999, whereas based on the community harvest survey, Elim harvested 21 moose. Harvest data are most likely below actual harvests, but the numbers give a relative idea of which communities are harvesting moose in Unit 22B west of the Darby Mountains. No other residents from Unit 22 have recorded harvests

in Unit 22B west of the Darby Mountains. When the harvest data were examined after dividing out the region west of the Darby Mountains for the years 1997–2001, 74% of the moose harvested were taken by Unit 22 residents. This higher percentage took into account unreported harvest data gathered through village surveys.

Harvest reporting for moose in Unit 22B dates back to 1983. Since that time, 65% of the reported moose harvest was by Unit 22 residents. Moose harvest in Unit 22B has declined from a range of 116 to 155 taken in the mid-1980s to a range of 49 to 56 taken in 2002 and 2003. Harvest data are most likely below actual harvests, but the numbers give a relative idea of which communities are harvesting moose in Unit 22B west of the Darby Mountains. No other residents from Unit 22 have recorded harvests in Unit 22B west of the Darby Mountains.

Management actions that decreased the number of moose that may be harvested from 42 to 18 in the fall, should aid in the recovery of the moose population. The decrease in allowable harvest will hopefully help the population to recover more quickly, ultimately conserving the resource for future potential harvest opportunities.

Although moose have been present in Unit 22 for a relatively short time, they rapidly became an extremely important food source for many Seward Peninsula residents. Gravel roads and navigable rivers provide relatively easy access to suitable moose habitat. The annual reported harvest in Unit 22 overall has ranged from a low of 44 moose taken in 1972 to a high of 408 taken in 1986, and back down to <200 taken in the late 1990s. Most hunter effort over the years has occurred during August, September, and October when access by road and river is more favorable; however, the use of ATVs and other off-road vehicles is becoming more popular.

Preliminary OSM recommendation:

_X_ maintain the closure

__ initiate proposal to modify or eliminate the closure

__ other recommendation

Justification for the OSM recommendation: The moose population continues to exist in low numbers and at a low density and there are no indications that there have been any increases in the moose population to justify additional non-subsistence harvest in the affected area of Unit 22B. Therefore the status quo should be maintained.

Literature

ADF&G. 2001. Community Profile Database. Harvest records for Unit 22 communities. Microcomputer database updated 2001.

ADF&G. 2003. Harvest ticket database. Microcomputer database, updated November 2003.

Adkisson, K. 2006. Cultural anthropologist. Personal communication. NPS. Nome, AK.

Denton, J. 2006. Wildlife biologist. Personal communication. BLM. Anchorage, AK.

FSB. 2000. Transcripts of the Federal Subsistence Board proceedings, May 6, 2000. Anchorage, AK.

Nelson, R., K. 1995. Unit 22 moose survey-inventory progress report. Pages 405–419 *in* M.V. Hicks, ed. Management report of survey-inventory activities, 1 July 1993–30 June 1995. ADF&G Fed. Aid in Wildl. Rest. Prog. Rep. Proj. W-24-2, W-24-3, Study 1.0, Juneau, AK. 488 pages.

Persons, K. 2000. Unit 22 moose survey-inventory progress report. Pages 436–453 *in* M.V. Hicks, ed. Management report of survey-inventory activities, 1 July 1997–30 June 1999. ADF&G Fed. Aid in Wildl. Rest. Prog. Rep. Proj. W-27-1, Study 1.0, Juneau, AK. 587 pages.

Persons, K. 2001. Area Game Biologist. Alaska Department of Fish and Game, Nome, AK. Personal Communication.

Persons, K. 2004. Area Game Biologist. Alaska Department of Fish and Game, Nome, AK. Personal Communication.

FEDERAL WILDLIFE CLOSURE REVIEW
WCR06-13

Closure location: Unit 22D — That portion within the Kougarok, Kuzitrin, and Pilgrim river drainages. Federal public lands are closed to the taking of moose except by residents of Units 22C and 22D.

Closure dates: Sept. 1–Sept. 14

Current State regulations:

Species and bag limits — Moose	Permit/Ticket Required	Open Season
Unit 22D, that portion within the Kougarok, Kuzitrin, and Pilgrim River drainages: **Residents**: **One bull** *by permit available online at hunt.alaska.gov or in person at ADF&G in Nome or at license vendors in Teller, White Mountain, and Golovin beginning Aug 1. Season will be closed by emergency order when 39 bulls are taken*	RM840	Sept 1–Sept 14
OR One antlered bull, *season may be announced Jan I–Jan 31 by permit available in person at ADF&G in Nome or at license vendors in Teller, White Mountain, and Golovin beginning Dec 1*	RM849	may be announced
Nonresidents:		no open season

Regulatory year initiated: 2002/03

Proposal number of initial closure and any subsequent proposals: WP02-34, WP02-35

Justification for original closure (Section 815(3) criteria): Conservation of a declining moose population and to provide Federally qualified subsistence users an opportunity to harvest the limited number of moose on Federal public lands in the affected area of Unit 22D. Rural residents of Unit 22D and the rural residents of Nome were given priority to hunt the limited number of moose in Unit 22D on Federal lands in the Kougarok, Kuzitrin, and Pilgrim River drainages during the September 1–14 season; and the rural residents of Unit 22C and 22D were given priority to hunt the limited number of moose on Federal public lands west of the Tisuk River drainage and Canyon Creek during the December 1–31 season.

Council recommendation for original closure:

WP02-34 — Support with modification. The Council felt that this proposal, with the staff recommended modification, would provide sufficient opportunity for subsistence users while taking the most conservative approach to preserving the moose population.

WP02-35 — Support with modification. The Seward Peninsula Regional Council supported the proposal with the modification to specify that rural residents of Unit 22B, West of Darby Mountains — White Mountain and Golovin; and, for Unit 22D Kougarok, Kuzitrin and Pilgrim river drainages, the moose harvest be restricted to rural residents of Unit 22D and C. The Seward Peninsula Regional Council stated

that restricting the harvest to local residents for areas where local moose populations are severely reduced is a conservation measure that would provide a subsistence priority.

State recommendation for original closure:

WP02-34 — Support with modification.

WP02-35 — Support with modification.

Other significant comments presented when the Board adopted the original closure: None

Current resource abundance related to management objective: Because of high predation rates, low calf survival, and low yearling-bull recruitment, Unit 22D moose have become an aging and declining population. As the management objectives for Unit 22D moose cannot be met because of the ongoing adverse impacts from predation, the need to maintain the rural preference through the Federal closure is warranted. The ADF&G's management objectives for the Unit 22D moose population include: increase and stabilize the population at 2,300 to 2,500 and maintain a minimum bull:cow ratio of 30:100.

Resource population trend: A cooperative moose population census of Unit 22D was conducted between February 23 and March 21, 2006. Analysis of results from the census produced a combined estimate for the Kuzitrin and Agiapuk River drainages and separate estimates were produced for the Kuzitrin River drainage and for the Agiapuk River drainage.

The 2006 estimate for the entire census area was 1,565 moose +/- 22.8% at 90% C.I. (1,208–1,922 moose). The calf:adult moose ratio was 24 calves:100 adults (+/-18.8 at 90% C.I.). The recruitment rate was 19%.

The population estimate for the Kuzitrin River drainage was 966 moose +/- 28.9% at 90% C.I. (687–1,246 moose). The calf:adult moose ratio was 18 calves:100 adults (+/-27.3 at 90% C.I.). The recruitment rate was 15%. The population estimate for the Agiapuk River drainage was 599 moose +/- 29.9% at 90% C.I. (420–778 moose), while the calf:adult moose ratio was 35 calves:100 adults (+/-26.1 at 90% C.I.). The recruitment rate was 26%.

The 2006 estimate of 1,565 moose for the entire Unit 22D census area is virtually unchanged since 2002 when 1,594 moose were estimated. The point estimate for the Kuzitrin River drainage indicates a slight decline (not statistically significant) and the estimate for the Agiapuk River drainage shows a slight increase (also not statistically significant). A slight decline in moose numbers in the Kuzitrin River drainage would not be surprising given calf:cow ratios of 9–15 calves:100 cows found in the Kuzitrin River during November 2002–2004 composition surveys. Composition surveys were not flown in the Agiapuk River drainage since the 2002 census, but calf:cow ratios were consistently higher in the Agiapuk River drainage during fall surveys prior to the 2002 census and calf:adult ratios were higher than in the Kuzitrin River in both the 2002 and 2006 censuses. The higher calf:adult moose ratio estimates from the spring 2006 census in both the Kuzitrin and Agiapuk drainages give hope for future population growth in both areas; however, it will take additional population surveys to determine a population trend for the affected area.

In 2003 and 2004, fall composition surveys where conducted in the Kuzitrin River drainage in Unit 22D. Analysis of results from the surveys found a much improved bull:cow ratio of 26:100 in 2003 and 30:100 in 2004, which ADF&G attributes to the reduction in moose harvest since the 33 bull harvest quota was adopted in 2002. The ADF&G has also observed an increase in the number of medium and large bulls.

The calf:cow ratio remained low until 2005, as it was 15 calves:100 cows in 2003 and 9 calves:100 cows in 2004, but increased to 33 calves:100 cows in 2005. Because of low calf:cow ratios, recruitment was probably too low to maintain the population size for many years.

Analysis of results from the Kuzitrin River drainage population census in 2006 produced a population estimate of 966 moose +/- 28.9% at 90% C.I. (687–1246 moose). The calf:adult ratio was 18 calves:100 adults (+/-27.3 at 90% C.I.). The recruitment rate was 15%. Aerial moose surveys were conducted by the ADF&G on the Kuzitrin, Kougarok and Pilgrim River drainages in 1988, 1993, 1997, and 2002. Analysis of results from aerial moose surveys produced population estimates for the survey area of 1,096 in 1993, approximately 1,251 in 1997, and 1,028 in 2002, which represents more than a 47% decline from the 1988 survey from which approximately 1,935 moose were estimated. The State closed the antlerless moose season for the Kuzitrin River drainage along with several other area drainages in 1997 to facilitate population recovery in the area. The point estimate obtained from the 2006 census shows a slight decline in numbers since 2002, however it is not a statistically significant difference. The improved calf:adult moose and bull:cow moose ratios are hopeful signs that the population may be stabilizing.

Harvest trend and/or hunter effort: In 2002, the fall registration hunt in the Kuzitrin River drainage portion of Unit 22D had a harvest quota of 33 bull moose with an actual harvest of 31 bulls. In 2003, the harvest quota was 33 bull moose; however, the quota was exceeded by a harvest of 4 bulls. In 2004, the fall State hunt was closed by emergency order on September 10. The harvest quota was 33 bull moose; however, the quota was once again exceeded by a harvest of 7 bulls. In 2005, the quota of 33 bull moose was exceeded by 3 bulls in spite of an emergency closure on September 8.

Over the last few years hunting pressure has been high and the joint Federal/State harvest quotas have been exceeded despite emergency closures well in advance of published season dates. Over harvest occurred in the Kuzitrin River drainage of Unit 22D in 2003, 2004, and 2005. When the seasons were closed early by Emergency Order and by Special Action in 2003 and 2004, hunters shifted their efforts to open season areas along the Nome road system that could not tolerate additional hunting pressure.

Residents of Unit 22 account for 77% of the reported moose harvest in Unit 22D since 1983. The moose harvest in Unit 22D has declined from 126–196 taken in the mid-1980s to 65–91 in the late 1990s.

Although moose have been present in Unit 22 for a relatively short time, they rapidly became an extremely important food source for many Seward Peninsula residents, with the demand by hunters high throughout the unit. Gravel roads and navigable rivers provide easy access to suitable moose habitat. The overall annual harvest in Unit 22 has ranged from a low of 44 moose taken in 1972 to a high of 408 taken in 1986, and back down to <200 taken in the late 1990s. Unit residents usually take at least 70% of the reported harvest annually. Most hunter effort over the years has occurred during August, September, and October when access by road and river has been most favorable. However, the use of ATVs and other off-road vehicles is becoming more popular.

Preliminary OSM recommendation:

_X_ maintain closure

__ initiate proposal to modify or eliminate the closure

__ other recommendation

Justification for the OSM recommendation: The Unit 22D moose population continues to exist in low numbers and at a low density. While there are no indications that the moose population may be stabilizing and the calf:adult moose ratio is improving, it would be premature to assume that an improving population trend is occurring. Because 77% of the Unit 22 moose harvests reported since 1983 have occurred in Unit 22D, hunting pressure on this small population remains high. Therefore the closure should be maintained.

Literature

ADF&G. 2001. Community Profile Database. Harvest records for Unit 22 communities. Microcomputer database updated 2001.

ADF&G. 2003. Harvest ticket database. Microcomputer database, updated November 2003.

Adkisson, K. 2006. Cultural anthropologist. Personal communication. NPS. Nome, AK.

Denton, J. 2006. Wildlife biologist. Personal communication. BLM. Anchorage, AK.

FSB. 2000. Transcripts of the Federal Subsistence Board proceedings, May 6, 2000. Anchorage, AK.

Nelson, R., K. 1995. Unit 22 moose survey-inventory progress report. Pages 405-419 *in* M.V. Hicks, ed. Management report of survey-inventory activities, 1 July 1993-30 June 1995. ADF&G Fed. Aid in Wildl. Rest. Prog. Rep. Proj. W-24-2, W-24-3, Study 1.0, Juneau, AK. 488 pages.

Persons, K. 2000. Unit 22 moose survey-inventory progress report. Pages 436-453 *in* M.V. Hicks, ed. Management report of survey-inventory activities, 1 July 1997–30 June 1999. ADF&G Fed. Aid in Wildl. Rest. Prog. Rep. Proj. W-27-1, Study 1.0, Juneau, AK. 587 pages.

Persons, K. 2001. Area Game Biologist. Alaska Department of Fish and Game, Nome, AK. Personal Communication.

Persons, K. 2004. Area Game Biologist. Alaska Department of Fish and Game, Nome, AK. Personal Communication.

FEDERAL WILDLIFE CLOSURE REVIEW
WCR06-14

Closure location: Unit 22D — That portion west of the Tisuk River drainage and Canyon Creek. Federal public lands are closed to the taking of moose except by residents of Units 22C and 22D hunting under these regulations.

Closure dates: Dec. 1–Dec. 31

Current State regulations:

Species and Bag limits — Moose	Permit/Ticket Required	Open Season
Unit 22D, Southwest, that portion west of the Tisuk River drainage, west of the west bank of the unnamed creek originating at the unit boundary opposite the headwaters of McAdam's Creek to its confluence with Canyon Creek, and west of the west bank of Canyon Creek to its confluence with Tuksuk Channel: **Residents**: **One bull** *by permit available online at hunt.alaska.gov or in person at ADF &G in Nome or at license vendors in Teller, White Mountain and Golovin beginning Aug 1. Season closed by emergency order when 8 bulls are taken.*	RM840	Sept 1–Sept 14
OR One antlered bull, *season may be announced Jan I–Jan 31 by permit, available ADF&G office in Nome or at license vendors in Teller, White Mountain, and Golovin beginning Dec 1.*	RM840	May be announced
Nonresidents:		no open season

Regulatory year initiated: 2002/03

Proposal number of initial closure and any subsequent proposals: WP02-34, WP02-35

Justification for original closure (Section 815(3) criteria): Conservation of a declining moose population and to provide Federally qualified subsistence users an opportunity to harvest the limited number of moose on Federal public lands in the affected area of Unit 22D. Rural residents of Unit 22(D) and the rural residents of Nome were given priority to hunt the limited number of moose in Unit 22(D) on Federal lands in the Kougarok, Kuzitrin, and Pilgrim River drainages during the September 1–14 season; and the rural residents of Unit 22(D) were given priority to hunt the limited number of moose on Federal public lands west of the Tisuk River drainage and Canyon Creek during the December 1–31 season.

Council recommendation for original closure: WP02-34 — Support with modification. The Council felt that this proposal, with the staff recommended modification, would provide sufficient opportunity for subsistence users while taking the most conservative approach to preserving the moose population.

WP02-35 — Support with modification. The Seward Peninsula Regional Council supported the proposal with the modification and stated that restricting the harvest to local residents for areas where local moose populations are severely reduced is a conservation measure that would provide a subsistence priority.

State recommendation for original closure:

WP02-34 - Support with modification.

WP02-35 - Support with modification.

Other significant comments presented when the Board adopted the original closure: None

Current resource abundance related to management objective: Because of high predation rates, low calf survival, and low yearling-bull recruitment, Unit 22D moose have become an aging and declining population. As the management objectives for Unit 22D moose cannot be met because of the ongoing adverse impacts from predation, the need to maintain the rural preference through the Federal closure is warranted. The ADF&G's management objectives for the Unit 22D moose population include: increase and stabilize the population at 2,300 to 2,500 and maintain a minimum bull:cow ratio of 30:100.

Resource population trend: A cooperative moose population census of Unit 22D was conducted between February 23 and March 21, 2006. Analysis of results from the census produced a combined estimate for the Kuzitrin and Agiapuk River drainages and separate estimates were produced for the Kuzitrin River drainage and for the Agiapuk River drainage.

The 2006 estimate for the entire census area was 1,565 moose +/- 22.8% at 90% C.I. (1,208-1,922 moose). The calf:adult moose ratio was 24 calves:100 adults (+/-18.8 at 90% C.I.). The recruitment rate was 19%. The population estimate for the Kuzitrin River drainage was 966 moose +/- 28.9% at 90% C.I. (687-1,246 moose). Unit 22D Southwest is an area with little moose habitat and few moose. The calf: adult moose ratio was 18 calves:100 adults (+/-27.3 at 90% C.I.). The recruitment rate was 15%. The population estimate for the Agiapuk River drainage was 599 moose +/- 29.9% at 90% C.I. (420-778 moose), while the calf:adult moose ratio was 35 calves:100 adults (+/-26.1 at 90% C.I.). The recruitment rate was 26%.

The 2006 estimate of 1,565 moose for the entire Unit 22D census area is virtually unchanged since 2002 when 1,594 moose were estimated. The point estimate for the Kuzitrin River drainage indicates a slight decline (not statistically significant) and the estimate for the Agiapuk River drainage shows a slight increase (also not statistically significant). A slight decline in moose numbers in the Kuzitrin River drainage would not be surprising given calf:cow ratios of 9-15 calves:100 cows found in the Kuzitrin River during November 2002-2004 composition surveys. Composition surveys were not flown in the Agiapuk River drainage since the 2002 census, but calf:cow ratios were consistently higher in the Agiapuk River drainage during fall surveys prior to the 2002 census and calf:adult ratios were higher than in the Kuzitrin River in both the 2002 and 2006 censuses. The higher calf:adult moose ratio estimates from the spring 2006 census in both the Kuzitrin and Agiapuk drainages give hope for future population growth in both areas; however, it will take additional population surveys to determine a population trend for the affected area.

In 2003 and 2004, fall composition surveys where conducted in the Kuzitrin River drainage in Unit 22D. Analysis of results from the surveys found a much improved bull:cow ratio of 26:100 in 2003 and 30:100 in 2004, which ADF&G attributes to the reduction in moose harvest since the 33 bull harvest quota was adopted in 2002. As high predation rates continue, the improved 2003 and 2004 bull:cow ratios were probably short-lived following the 2004 survey. The ADF&G has also observed an increase in the number of medium and large bulls. The calf:cow ratio; however, is still a concern; as it was 15:100 calves:100 cows in 2003 and 9:100 calves:100 cows in 2004. Based on aerial surveys for the American River and Agiapuk River drainages (Unit 22D – remainder), there was a 35% population decline between 1988 and

1993; however, in 1997 the area population had stabilized at 578 moose with 22% calf recruitment. Based on these population numbers and low composition ratios, recruitment is probably too low to maintain the population size.

Analysis of results from the most recent population census in 2002 produced a population estimate of 1,595 moose in Unit 22D. Aerial moose surveys were conducted by the ADF&G on the Kuzitrin, Kougarok and Pilgrim River drainages in 1988, 1993, and 1997. Analysis of results from aerial moose surveys produced population estimates for the survey area of 1,096 in 1993 and approximately 1,251 in 1997, both of which represent more than a 35% decline from the 1988 survey from which approximately 1,935 moose were estimated. The State closed the antlerless moose season for the Kuzitrin River drainage along with several other area drainages in 1997 to facilitate population recovery in the area. Based on analysis of results from aerial surveys conducted by the ADF&G annually since 1998, the area population decline is continuing in the Kuzitrin River drainage along with low calf survival and recruitment due to predation. Observations from a November 2000 aerial composition survey, conducted by the ADF&G, revealed that the bull:cow ratio continues to be low at 16 bulls:100 cows. In addition both hunter success and the overall harvest dropped in 2000, with concern cited as to a scarcity of mature bulls in the population.

Harvest trend and/or hunter effort: When harvest was restricted through registration hunts with harvest quotas in other road accessible parts of Unit 22 where moose populations were in decline, a harvest quota of 8 bulls was set for the affected area. This ensures that excessive harvest does not occur in Unit 22D Southwest due to restrictions in other parts of the unit. The harvest quota for the Southwest portion of Unit 22D has been 8 moose since 2002. Total harvest for 2002 was one bull, 7 bulls were harvested during 2003, 8 bulls in 2004, and 6 bulls were taken in 2005.

Preliminary OSM recommendation:

_X_ maintain closure

__ initiate proposal to modify or eliminate the closure

__ other recommendation

Justification for the OSM recommendation: The moose population in Unit 22D Southwest continues to exist in low numbers and at a low density, while there are no indications that there have been any increases in the moose population to justify additional non-subsistence harvest. Because 77% of the Unit 22 moose harvests reported since 1983 have occurred in Unit 22D, hunting pressure on this small population remains high. Therefore the closure should be maintained. Although Unit 22D Southwest does not have the habitat necessary to support many moose, the restrictions that currently protect the small number of moose found in this area should remain in place until population recovery occurs in other road accessible areas of Unit 22.

Literature

ADF &G. 2001. Community Profile Database. Harvest records for Unit 22 communities. Microcomputer database updated 2001.

ADF&G. 2003. Harvest ticket database. Microcomputer database, updated November 2003.

Adkisson, K. 2006. Cultural anthropologist. Personal communication. NPS. Nome, AK.

Denton, J. 2006. Wildlife biologist. Personal communication. BLM. Anchorage, AK.

FSB. 2000. Transcripts of the Federal Subsistence Board proceedings, May 6, 2000. Anchorage, AK.

Nelson, R., K. 1995. Unit 22 moose survey-inventory progress report. Pages 405-419 *in* M.V. Hicks, ed. Management report of survey-inventory activities, 1 July 1993-30 June 1995. ADF&G Fed. Aid in Wildl. Rest. Prog. Rep. Proj. W-24-2, W-24-3, Study 1.0, Juneau, AK. 488 pages.

Persons, K. 2000. Unit 22 moose survey-inventory progress report. Pages 436-453 *in* M.V. Hicks, ed. Management report of survey-inventory activities, 1 July 1997-30 June 1999. ADF&G Fed. Aid in Wildl. Rest. Prog. Rep. Proj. W-27-1, Study 1.0, Juneau, AK. 587 pages.

Persons, K. 2001. Area Game Biologist. Alaska Department of Fish and Game, Nome, AK. Personal Communication.

Persons, K. 2005. Area Game Biologist. Alaska Department of Fish and Game, Nome, AK. Personal Communication.

FEDERAL WILDLIFE CLOSURE REVIEW
WCR06-15

Closure location: Unit 22D — remainder. Federal public lands are closed to the taking of moose except by Federally qualified subsistence users hunting under these regulations.

Closure dates: Aug. 1–Jan. 31

Current State regulations:

Species and Bag limits — Moose	Permit/Ticket Required	Open Season
Remainder of Unit 22D: Residents: One bull	Harvest	Aug 10–Sept 14
OR One bulI	Harvest	Oct 1–Nov 30
OR One moose, *however no person may take a calf or a cow accompanied by a calf*	Harvest	Dec 1–Dec31
OR One antlered bull	Harvest	Jan 1–Jan 31
Nonresidents: One bull with 50-inch antlers or antlers with 4 or more brow tines on at least one side by permit; 6 permits available at Nome ADF&G beginning July 1, 9 a.m.	RM840	Sept 1–Sept 14

Regulatory year initiated: 2002/03

Proposal number of initial closure and any subsequent proposals: WP02-34, WP02-35

Justification for original closure (Section 815(3) criteria): Conservation of a declining moose population and to provide Federally qualified subsistence users an opportunity to harvest the limited number of moose on Federal public lands in the affected area of Unit 22D. Rural residents of Unit 22D and the rural residents of Nome were given priority to hunt the limited number of moose in Unit 22D on Federal lands in the Kougarok, Kuzitrin, and Pilgrim River drainages during the September 1–14 season; and the rural residents of Unit 22D were given priority to hunt the limited number of moose on Federal public lands west of the Tisuk River drainage and Canyon Creek during the December 1–31 season.

Council recommendation for original closure:

WP02-34 — Support with modification. The Council felt that this proposal, with the staff recommended modification, would provide sufficient opportunity for subsistence users while taking the most conservative approach to preserving the moose population.

WP02-35 — Support with modification. The Seward Peninsula Regional Council supported the proposal with the modification and stated that restricting the harvest to local residents for areas where local moose populations are severely reduced is a conservation measure that would provide a subsistence priority.

State recommendation for original closure:

WP02-34 — Support with modification.

WP02-35 — Support with modification.

Other significant comments presented when the Board adopted the original closure: None

Current resource abundance related to management objective: The bull:cow ratio continues to meet the ADF&G management goal of 30 bulls:100 cow moose. In 2002 the Agiapuk River drainage yielded an estimate of 567 moose (+/-21.0% at 90% C.I.). Analysis of this estimate indicates the population declined by 40% since 1988, but has been stable since 1997. Analysis of results from the most recent population census of the Agiapuk River drainage in 2006 produced an estimated 599 moose (+/- 29.9% at 90% C.I.). The calf:adult moose ratio was 35 calves:100 adults (+/-26.1 at 90% C.I.). The yearling bull moose recruitment rate was 26%.

Resource population trend: The population has been stable for 10 years and the recruitment rates have been higher than in most areas of Unit 22.

Harvest trend and/or hunter effort: Analysis of results from harvest ticket data and data collected from village harvest surveys indicate that the harvestable surplus in Unit 22D remainder is not being taken.

Preliminary OSM recommendation.

___ maintain closure

_X_ initiate proposal to modify or eliminate the closure

___ other recommendation

Justification for the OSM recommendation: This population has remained stable since 1997, the bull: cow ratio consistently exceeds the ADF&G management goal, recruitment rates are consistently high enough to likely maintain the population, and the harvestable surplus is not being taken in spite of a five-month season with a one-month cow season and a nonresident season. Because the moose population in the remainder of Unit 22D has improved and is stable, conservation measures and the opportunity provided by the Federal closure are no longer necessary.

Literature

ADF&G. 2001. Community Profile Database. Harvest records for Unit 22 communities. Microcomputer database updated 2001.

ADF&G. 2003. Harvest ticket database. Microcomputer database, updated November 2003.

Adkisson, K. 2006. Cultural anthropologist. Personal communication. NPS. Nome, AK.

Denton, J. 2006. Wildlife biologist. Personal communication. BLM. Anchorage, AK.

FSB. 2000. Transcripts of the Federal Subsistence Board proceedings, May 6, 2000. Anchorage, AK.

Nelson, R., K. 1995. Unit 22 moose survey-inventory progress report. Pages 405–419 in M.V. Hicks, ed. Management report of survey-inventory activities, 1 July 1993– June 1995. ADF&G Fed. Aid in Wildl. Rest. Prog. Rep. Proj. W-24-2, W-24-3, Study 1.0, Juneau, AK. 488 pages.

Persons, K. 2000. Unit 22 moose survey-inventory progress report. Pages 436-453 in M.V. Hicks, ed. Management report of survey-inventory activities, 1 July 1997–30 June 1999. ADF&G Fed. Aid in Wildl. Rest. Prog. Rep. Proj. W-27-1, Study 1.0, Juneau, AK. 587 pages.

Persons, K. 2001. Area Game Biologist. Alaska Department of Fish and Game, Nome, AK. Personal Communication.

Persons, K. 2005. Area Game Biologist. Alaska Department of Fish and Game, Nome, AK. Personal Communication.

FEDERAL WILDLIFE CLOSURE REVIEW
WCR06-16

Closure location: Unit 22E — Moose

Closure Dates: *Federal public lands are closed to the taking of moose except by Federally qualified subsistence users hunting under these regulations, Aug. 1–Dec. 31*.

Current State regulations:

Residents only, 1 bull, harvest ticket required, Aug. 1–Dec. 31

Regulatory year initiated: 2002/03

Proposal number of initial closure and any subsequent proposals: WP02-34

Justification for original closure (Section 815(3) criteria): Conservation of a declining moose population and to provide Federally qualified subsistence users an opportunity to harvest the limited number of moose on Federal public lands in the affected area of Unit 22E.

Seward Peninsula Council recommendation for original closure: Support. The Council felt that this proposal would provide sufficient opportunity for subsistence users while taking the most conservative approach to preserving the moose population.

State recommendation for original closure: Support.

Other significant comments presented when the Board adopted the original closure: None

Current resource abundance related to management objective: Analysis of results from surveys conducted by the ADF&G concluded that the Unit 22E moose population may be meeting the current management objectives for the subunit. Management objectives for the Unit 22E moose population include: increase and stabilize the population at 200–250 moose, and maintain a minimum bull:cow ratio of 30:100.

Resource population trend: A cooperative Unit 22E population census was complete by the ADF&G during March 2006. Analysis of results from the census produced a population estimate of 587 moose for the subunit, (481-695 moose) ± 18.2% at 90% C.I. The 2006 estimate of 587 moose indicates a 16% increase in population size since 2003; however; the increase is not statistically significant at the 90% C.I. Another possibility for this population increase is interchange of moose between Unit 22E and the northwestern portion of Unit 22D. The definition of herd for this population may not necessarily comply with subunit boundaries or there possibly could exist a subset of animals that seasonally migrate between the two subunits. Because of the possibility of "inter-subunit" migration and because more population data is needed to determine a trend for Unit 22E moose, removal of the closure at this time may cause additional harvest of Unit 22D moose, a population that exists in low numbers and in low density. Additional population surveys are needed to determine if the increasing population and recruitment rates are ongoing trends.

An estimate of 504 moose in Unit 22E was obtained by a census completed in March 2003. This estimate was higher than all previous estimates. Radio collar studies have shown much seasonal migration between

Units 22E and 22D, so the higher moose population estimate was probably due to moose remaining in Unit 22E rather than moving to Unit 22D winter ranges. The March 2006, Unit 22E estimate was 587 moose, with a recruitment rate of 18%. Local observers report that population size and calf:adult moose ratios have increased since the late 1990s and early 2000s.

Although the pre-2003 riparian survey data is not directly comparable to the recent census estimates, the data supports local observations and reports that population size and calf:adult moose ratios have increased since the late 1990s and early 2000s, when staff and local concerns about declining numbers of moose and calves led to season reductions and a bulls-only hunt.

Collaring studies in the 1980s showed considerable movement of moose from Unit 22E into the American/Agipuk drainages in Unit 22D during winters of heavy snow accumulation. To capture these potential annual variations, the ADF&G altered its census schedule to allow censuses of Units 22D and 22E during the same winter, which was accomplished for the first time this year. The 2006 Unit 22D estimate of 1,565 moose (± 22.8% at 90% C.I.) indicates a stable population since 2002 and found an improved calf:adult moose ratio of 24 calves:100 adults (+/-18.8 at 90% C.I.). Analysis of results from data collected this year suggest stable or perhaps slightly increasing populations in both Units 22D and 22E with calf:adult moose ratios of more than 20:100 calf:adult moose. Based on population estimates for other parts of Unit 22, if these ratios in Units 22D and E are maintained, true population growth may actually occur—instead of migration of moose between the two subunits. Additional surveys will be needed to determine the actual population dynamics for Units 22D and E.

Harvest trend and/or hunter effort: In Unit 22E, residents of Unit 22 accounted for 84% of the reported moose harvest during 1983 to 2000, with 95% of those taken by either Shishmaref or Wales residents. The reported moose harvest in Unit 22E has steadily declined from 43–49 moose in the mid-1980s to less than 10 moose harvested by 1998. This moose harvest trend has continued; for the 5-year period from 2001 to 2005, 6-10 bulls were reported harvested during this period. It is important to note that all of Unit 22E is a resident-only hunt under State regulations.

Note: It is important to note that actual harvest in Unit 22E is likely greater than harvest reported by harvest permit in the Statewide harvest database. Analysis of results from village harvest surveys conducted in Wales and Shishmaref in 2001 reported 44 moose taken by Shishmaref residents (23% reported by harvest ticket) and 14 moose taken by Wales residents (69% reported by harvest ticket). The shortened season reduced harvest, but total harvest is probably still considerably higher than what the harvest database indicates. Also, Unit 22E is one of the few places on the Seward Peninsula with an August moose season and there is increasing interest on the part of Nome hunters and hunters from other parts of the state in accessing the affected area to hunt moose. Whether interest will eventually translate to increased harvest remains to be seen, but the ADF&G has been receiving an increasing number of inquires concerning moose hunting in Unit 22E.

Preliminary OSM recommendation:

_**x**_ maintain closure
___ initiate proposal to modify or eliminate the closure
___ other recommendation

Justification for the OSM recommendation: The Unit 22E moose population appears to be rebounding based on recent surveys conducted in March 2006; however, additional surveys are needed to determine the status of the Unit 22E population. To ensure that this increase in moose population numbers is a continuing trend, it is recommended that results from a comparable survey at least 1–2 years later, in

addition to composition counts which reflect management objectives, be considered in future management decisions prior to consideration of the existing closure.

Literature

ADF&G. 2006. Division of Wildlife Conservation, Harvest information database.

Adkisson, K. 2006. Cultural anthropologist. Personal communication. NPS. Nome, AK.

Denton, J. 2006. Wildlife biologist. Personal communication. BLM. Anchorage, AK.

FWS. 2002. Federal Subsistence Board Book, Region 7. Proposal 34. Office of Subsistence Management, FWS. Anchorage, AK.

Persons, K. 2006. Area biologist. Written correspondence. ADF&G, Nome, AK.

Persons, K. 20046. Unit 22 moose management report. Pages 496–522 in C. Brown, editor. Moose management report of survey and inventory activities, 1 July 2001–30 June 2003. ADF&G. Project 1.0. Juneau, Alaska.